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Blue Latitudes

*Boldly Going Where
Captain Cook
Has Gone Before*

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Tony Horwitz

Chapter 1

PACIFIC NORTHWEST:
One Week Before the Mast

Those who would go to sea for pleasure would go to hell
for pastime.

—EIGHTEENTH-CENTURY APHORISM

When I was thirteen, my parents bought a used sailboat, a ten-foot wooden dory that I christened *Wet Dream*. For several summers, I tacked around the waters off Cape Cod, imagining myself one of the whalers who plied Nantucket Sound in the nineteenth century. I read *Moby-Dick*, tied a bandanna around my head, even tried my hand at scrimshaw. This fantasy life offered escape from the fact that I could barely sail—or caulk, or knot anything except a shoelace. One day, bailing frantically with a sawed-off milk jug after gashing the *Wet Dream* against a rock, I found my whaling dream had become real. I was Ishmael, the *Pequod* sinking beneath me.

This hapless memory returned to me as I studied an application for a berth on His Majesty's Bark *Endeavour*. An Australian foundation had built a museum-quality replica of Cook's first vessel and dispatched it around the globe in the navigator's path. At each port, the ship's professional crew took on volunteers to help sail the next leg and experience life as eighteenth-century sailors. This seemed the obvious place to start; if I was going to understand Cook's travels, I first had to understand *how* he traveled.

PACIFIC NORTHWEST

The application form asked about my “qualifications and experience,” with boxes beside each question, marked yes or no.

Have you had any blue water ocean sailing experience?

Can you swim 50 meters fully clothed?

You will be required to work aloft, sometimes at night in heavy weather. Are you confident of being able to do this?

I wasn't sure what was meant by “blue water ocean.” Did it come in other colors? I'd never swum clothed, except once, after falling off the *Wet Dream*. As for working aloft, I'd climbed ladders to scoop leaves from my gutter in Virginia. I checked “yes” next to each question. But the last query gave me pause: “Do you suffer from sea sickness?”

Only when I went to sea. I opted for the box marked “moderate,” rather than the “chronic” box, fearing I'd otherwise be judged unfit.

A week later, I received a terse note confirming a berth in early autumn from Gig Harbor, Washington, to Vancouver, British Columbia. The letter came with a “Safety and Training Manual.” A page headed “Abandon Ship” offered this helpful tip: “Stay together in waters—stay calm.” Other pages dealt with “burns and scalds,” “sudden serious injury,” drowning, and seasickness: “You may feel like you're dying but you will survive.” In case you didn't, there was a liability waiver to sign (“I understand and expressly assume these risks and dangers, including death, illness, disease . . .”).

The safety tips, at least, were stated in plain English. The training section read like a home appliance manual, badly translated from Korean, with “some assembly required.” A typical diagram showed intersecting arrows and loops, allegedly explaining the layout of “Bits & Fife Rail to Fwd. of Mainmast Looking from Starboard Side.”

I quickly gave up and spent the weeks until my voyage studying history books instead. Among other things, I learned that the original *Endeavour* was a mirror of the man who commanded it: plain, utilitarian, indomitable. Like Cook, the ship began its career in the coal trade, shuttling between the mine country of the north of England and the docks of east London. Bluff-bowed and wide-beamed, the ninety-seven-foot-long ship was built for bulk and endurance rather than

One Week Before the Mast

speed or comfort. “A cross between a Dutch clog and a coffin,” was how one historian described it.

The tallest of the *Endeavour's* three masts teetered a vertiginous 127 feet. Belowdecks, the head clearance stooped to four foot six. The *Endeavour's* flat bottom and very shallow keel—designed so the collier could float ashore with the tide to load and unload coal—made the ship exceptionally “tender,” meaning it tended to roll from side to side. “Found the ship to be but a heavy sailer,” wrote the ship's botanist, Joseph Banks, “more calculated for stowage, than for sailing.” He wrote this in calm seas, two days after leaving England. When the going turned rough, Banks retreated to his cot, “ill with sickness at stomach and most violent headach.”

Duly warned, I sampled a seasickness pill on the flight to Seattle. It made me so listless and wobbly that I almost fell down in the aisle. This seemed a bad state in which to work aloft, at night in heavy seas. I flushed the rest of the pills down the airplane toilet.

The pier at Gig Harbor, an hour south of Seattle, teemed with gleaming new yachts. In this sea of sleek fiberglass, the replica *Endeavour* was easy to spot. The original ship had been made almost entirely from grasses and trees—hemp, flax, elm, oak, pine tar—with bits of iron and brass thrown in. The replica appeared much the same. With its sails furled and its masts poking skeletally into the damp air, the vessel looked boxy and brittle, a boat built from matchsticks. At a hundred feet long, it wasn't much bigger than many of the nearby yachts.

A dozen sailors, mostly tanned young Australians in navy-colored work clothes, stood coiling ropes on the dock and bantering in the matey, mocking fashion I knew well from my years in Sydney. “Press-ganged men over there,” one sailor said, pointing me to a waterside park. My fellow recruits numbered forty, mostly Americans and Canadians, including six women. Chatting nervously, I was relieved to discover that some of them had little more sailing experience than I did.

Then again, they seemed a fit lot, accustomed to hard labor, or at least hard exercise: construction workers, military veterans, sinewy joggers. “This'll be like a week at a dude ranch,” a broad-shouldered carpenter assured me.

A trim, brisk figure strode over from the ship and barked, “Listen

up!" This was our captain, Chris Blake, a mild-featured man much shorter than Cook but no less commanding in manner. "We'll get on with a very fast learning curve," he said, handing us over to the ship's first mate, a gruff Englishman named Geoff.

"This will be like going back into the Army, if you've ever been there, with a lot less sleep," Geoff began. "Your straight eight, you're not going to get it on this ship, so when you have a chance to put your head down, do it." He also told us where to put our heads when seasick. "Make friends with one of our plastic buckets and make sure you chuck it over the lee side so you're not wearing your pizza. And no throwing up belowdecks, because you'll have every other person throwing up beside you."

A safety officer followed with a brief talk about abandoning ship. "Hold your nostrils when you jump overboard because it's a long fall and can break your nose," he said. "Blokes, keep your legs crossed when you go over, same reason. Also, try to huddle together in the water. It's not going to save you, but it might give you a few more minutes." Then he warned us about the "gasp reflex." As he explained it: "The water's so cold that you gasp and suck a lot in."

After this orientation, we split into three "watches," each one assigned to a mast and a captain-of-tops, our drill sergeant for the week ahead. My watch was mainmast, by far the tallest of the three, commanded by Todd, a raffishly handsome Australian with a ponytail, earrings, and a red bandanna wrapped round his unshaven neck. "Okay, you scurvy dogs and wenches," he said, "let's start with the slops."

"Slops" was the eighteenth-century term for naval gear. Sailors on the original *Endeavour* wore no prescribed uniform, nor would we dress in period costume. Todd tossed us each a set of brown oilskin pants and jacket. "In Australia they're called Driza-Bone, but we call them Wet-as-a-Bastard. As soon as they get wet they stay that way." He also issued us orange night vests, and safety harnesses that looked like mountain-climbing belts.

Then Todd led us across the ship's deck and down a ladder, or companionway, which plunged to a dark chamber called the mess deck. We squinted at tables roped to the ceiling, as well as vinegar kegs, a huge iron stove, and sea chests that doubled as benches—all packed into a

room the size of a suburban den. This cramped cavern would somehow accommodate thirty of us, with the other ten recruits in a small adjoining space.

Todd tossed us canvas hammocks and showed how to lash them to the beams above the tables. We were allotted just fourteen inches' width of airspace per sling, the Navy's prescribed sleeping area in the eighteenth century. "If you don't know knots, tie lots," Todd said, as I struggled to complete a simple hitch. He also showed us how to stow the hammocks, snug and tightly roped, in a netted hold.

Stumbling around the dark deck, colliding with tables and people, and bending almost double when the head clearance plunged to dwarf height, I tried to imagine spending three years in this claustrophobic hole, as Cook's men had. Incredibly, the original *Endeavour* left port with forty more people than we had on board—accompanied by seventeen sheep, several dozen ducks and chickens, four pigs, three cats (to catch rats), and a milk goat that had circled the globe once before. "Being in a ship is being in a jail," Samuel Johnson sagely observed, "with the chance of being drowned."

THE *ENDEAVOUR'S* MISSION was as daunting as the conditions on the ship. Though Ferdinand Magellan had first crossed the Pacific two and a half centuries before, the ocean—covering an area greater than all the world's landmasses combined—remained so mysterious that mapmakers labeled vast stretches of the Pacific *nondum cognita* (not yet known). Cartographers knew so little of the lands within the Pacific that they simply guessed at the contours of coasts: a French chart from 1753, fifteen years before the *Endeavour's* departure, shows dotted shorelines accompanied by the words "*Je suppose*."

One reason for this ignorance was that most of the ships sailing after Magellan followed the same, relatively narrow band of ocean, channeled by prevailing winds and currents, and constrained by poor navigational tools. Also, geography in the early modern era was regarded as proprietary information; navies kept explorers' charts and journals under wraps, lest competing nations use them to expand their own empires.

Not that these reports were very reliable. Magellan's pilot miscalculated the longitude of the Philippines by 53 degrees, an error akin to planting Bolivia in central Africa. When another Spanish expedition stumbled on an island chain in the western Pacific in 1567, the captain believed he'd found the biblical land of Ophir, from which King Solomon shipped gold, sandalwood, and precious stones. Spanish charts, and the navigational skills of those who followed, were so faulty that Europeans failed to find the Solomon Islands again for two centuries. No gold and not much of economic value was ever discovered there.

Pacific adventurers also showed an unfortunate tendency toward abbreviated careers. Vasco Núñez de Balboa, the first European to sight the ocean, in 1513, was beheaded for treason. Magellan set off in 1519 with five ships and 237 men; only one ship and eighteen men made it home three years later, and Magellan was not present, having been speared in the Philippines. Francis Drake, the first English circumnavigator, died at sea of dysentery. Vitus Bering, sailing for the czar, perished from exposure after shipwrecking near the frigid sea now named for him; at the last, Bering lay half-buried in sand, to keep warm, while Arctic foxes gnawed at his sick and dying men.

Other explorers simply vanished. Or went mad. In 1606, the navigator Fernandes de Queirós told his pilot, "Put the ships' heads where they like, for God will guide them as may be right." When God delivered the Spanish ships to the shore of what became the New Hebrides, Fernandes de Queirós founded a city called New Jerusalem and anointed his sailors "Knights of the Holy Ghost."

But the most persistent and alluring mirage of Pacific exploration was *terra australis incognita*, an unknown "south land," first conjured into being by the wonderfully named Roman mapmaker Pomponius Mela. He, like Ptolemy, believed that the continents of the northern hemisphere must be balanced by an equally large landmass at the bottom of the globe. Otherwise, the world would tilt. This appealingly symmetrical notion was embellished by Marco Polo, who claimed he'd seen a south land called Locac, filled with gold and game and elephants and idolators, "a very wild region, visited by few people." Renaissance mapmakers took the Venetian's vague coordinates and

placed Locac—also known as Lucach, Maletur, and Beach—far to the south, part of the fabled *terra australis*. The discovery of America only heightened Europeans' conviction that another vast continent, rich in resources, remained to be found.

So things stood in 1768, when London's august scientific group, the Royal Society, petitioned King George III to send a ship to the South Pacific. A rare astronomical event, the transit of Venus across the sun, was due to occur on June 3, 1769, and not again for 105 years. The society hoped that an accurate observation of the transit, from disparate points on the globe, would enable astronomers to calculate the earth's distance from the sun, part of the complex task of mapping the solar system. Half a century after Isaac Newton and almost three centuries after Christopher Columbus, basic questions of where things were—in the sky, as well as on earth—remained unresolved.

The king accepted the society's request, and ordered the Admiralty to fit out an appropriate ship. As commander, the Royal Society recommended Alexander Dalrymple, a distinguished theorist and cartographer who had sailed to the East Indies, and who believed so firmly in the southern continent that he put its breadth at exactly 5,323 miles and its population at fifty million. The Admiralty instead selected James Cook, a Navy officer whose oceangoing experience was limited to the North Atlantic.

On the face of it, this seemed an unlikely choice—and, among some in the establishment, it was unpopular. Cook was a virtual unknown outside Navy circles and a curiosity within. He had spent the previous decade charting the coast of Canada, a task at which he displayed exceptional talent. One admiral, noting "Mr. Cook's Genius and Capacity," observed of his charts: "They may be the means of directing many in the right way, but cannot mislead any." But Cook's rank remained that of second lieutenant, and, as an ill-educated man of low birth, married to the daughter of a dockside tavernkeeper, he didn't fit the mold of the scientific and naval elite.

Cook's bearing was as plain as his background. Though very tall for his day, at several inches over six feet, he was rawboned and narrow. The few surviving portraits show a commanding but austere figure: long straight nose, thin lips, high cheekbones, deep-set brown eyes.

James Boswell described Cook as “a grave, steady man” who possessed “a ballance in his mind for truth as nice as scales for weighing a guinea.”

This guarded, meticulous Yorkshireman also faced a mission much more daring than the astronomical voyage requested by the Royal Society. The Lords of the Admiralty dispatched Cook with two sets of orders. One instructed him to proceed to a recently discovered South Pacific island, named for King George, to observe the transit of Venus and survey harbors and bays. “When this Service is perform’d,” the orders concluded, “you are to put to Sea without Loss of Time, and carry into execution the Additional Instructions contained in the inclosed Sealed Packet.”

These orders, labeled “secret,” laid out an ambitious plan for “making Discoveries of Countries hitherto unknown.” In particular, Cook was to search unexplored latitudes for the fabled continent of Pomponius Mela and Marco Polo. “Whereas there is reason to imagine that a Continent or Land of great extent, may be found,” the orders commanded, “You are to proceed to the southward in order to make discovery of the Continent abovementioned.”

In other words, Cook and his men were to voyage to the edge of the known world, then leap off it and sail into the blue.

ON MY FIRST night aboard the replica *Endeavour*, I sat down with my watchmates to a dinner advertised on the galley blackboard as “gruel.” This turned out to be a tasty stew, with pie and fruit to follow. It was also a marked improvement on the fare aboard the original *Endeavour*. Before leaving port, Cook complained to the Navy Board that the cook assigned his ship was “a lame infirm man, and incapable of doing his Duty.” The board granted his request for a replacement, sending John Thompson, who had lost his right hand. Cook’s request for still another man was denied. The Navy gave preference to “crippled and maimed persons” in its appointment of cooks, a fair indicator of its regard for sailors’ palates.

“Victualled” for twelve months, the *Endeavour* toted thousands of pounds of ship’s biscuit (hardtack), salt beef, and salt pork: the sailors’

staples. On alternate days, the crew ate oatmeal and cheese instead of meat. Though hearty—a daily ration packed 4,500 calories—the sailors’ diet was as foul as it was monotonous. “Our bread indeed is but indifferent,” the *Endeavour*’s botanist, Joseph Banks, observed, “occasioned by the quantity of Vermin that are in it. I have often seen hundreds nay thousands shaken out of a single basket.” Banks catalogued five types of insect and noted their mustardy and “very disagreeable” flavor, which he likened to a medicinal tonic made from stags’ horns.

On the replica, we also enjoyed a considerable luxury denied Cook’s men: marine toilets and showers tucked discreetly in the forward hold. Up on the main deck, Todd showed us what the original sailors used: holed planks extending from the bow, utterly exposed in every sense. These were called heads, or seats of ease. On Cook’s second voyage, an unfortunate sailor was last seen using the heads, from which he fell and drowned.

Once we’d eaten and showered, Todd recommended we head straight for our hammocks. “Call all hands” was scheduled for six A.M., and many of us would have to rise before then for a shift on deck. This was also our last night in port. “Once the rocking and rolling starts,” Todd warned, “you may not get much rest.”

I hoisted myself into the hammock—and promptly tumbled out the other side. On the second try I managed a mummylike posture, arms folded tightly across my chest. At least I couldn’t toss and turn, as I normally do in bed. “I feel like a bat,” moaned Chris, the crewman a few inches to my left, his nose almost brushing the ceiling.

To my right, lying with his feet past my head, swung Michael, a man built like Samson. As soon as he fell asleep, his massive limbs spilled out of his hammock and into mine. My face pressed against his thigh; a loglike arm weighed on my ankles. Then a storm came up and the ship started swaying. Michael’s oxlike torso thudded against me, knocking my hammock against Chris’s and back into Samson’s. I felt like a carcass in a meat locker. The ship’s timbers also creaked and groaned, adding to the snores and curses of my cabin mates.

At midnight, the watches changed. Crewmen thudded down the companionway and roused the next shift from their hammocks. Then

a woman began sneezing and hacking. "I'm allergic to something down here," she moaned, having woken most of us up, "and I didn't bring any medicine."

I'd just managed a fitful doze when someone poked me hard in the ribs: four A.M. watch. Groggily pulling on my gear, I mustered on deck with several others. We were still near shore and had little to do except make sure that the anchor line didn't tangle. Loitering about the dark, empty ship, I felt oddly like a night guard at a museum.

This gave me a chance to become acquainted with my watch mates. Chris, my hammock neighbor, was a bespectacled psychology professor. Samsonesque Michael worked as a tugboat captain. The fourth member of our night watch, Charlie, had just retired after thirty-two years as a firefighter. "I guess I still need excitement," he said, when I asked why he'd signed on. "So I decided to try adventure travel."

"Adventure torture's more like it," Chris said. "I was lying there all night thinking, 'I volunteered for this? To be straitjacketed?'"

At seven A.M., we were called below for the last sitting of breakfast: porridge and toast with Vegemite, the bitter Australian spread that looks like creosote. "On deck in five minutes!" Todd shouted as soon as we'd sat down. We bolted our food and rushed to stow our hammocks. I'd already forgotten Todd's instructions: roped up, my sling looked bloated and uneven, like a strangled sausage. I crammed it as best I could into the stow hold and lunged up the companionway, thudding my head so hard I almost fell back down the steps.

"Okay," Todd said, clapping his hands. "Now that you're rested and fed, it's time for some hard labor." As far as I could gather, this meant yanking and tying down ropes. "It's Newton's third law, every action has an equal reaction," Todd explained. "You've got to ease on one side of the ship so you can haul on the other. Haul or ease away, either way the order is 'Haul away!' Take the line down the left side of the cleat, then do a figure eight with three turns and run it round the back and loop it. That's called a tugboat hitch." He paused for breath. "Everything clear?"

There were twelve of us on mainmast. I reckoned I could lose myself in the mob, or latch on to someone who knew what he or she was doing. "Stand by for cannon!" shouted a longhaired gunner wearing earmuffs. "Fire in the hole!" He lowered a blowtorch to a small

pan of black powder, then stepped away as the cannon expelled a cloud of smoke and wadded newspaper into the damp, foggy air.

The first mate shouted, "Haul away!" and I joined the others in tugging at the thick, heavy ropes. Todd urged us on with an antique guncrew command: "Two-six heave! Put your back into it! For queen and country!" We yanked another rope, and then another, maneuvering some small part of the impossibly complex rigging. The horizontal yards shifted along the masts, like rotating crucifixes. The first of the ship's twenty-eight sails fluttered from the bowsprit. Rope rained down all around us, twenty miles of rope in all. After an hour of grabbing and tugging, I felt as though I'd been put to the rack.

Four older men wandered up from below, looking rested and relaxed. These were the ship's passengers, who paid a fat sum to occupy private cabins. Like almost everything else on the replica *Endeavour*, their presence hewed to the original. A month before the ship's departure, the Admiralty informed Cook that "Joseph Banks Esq.," a member of the Royal Society and "a Gentleman of Large Fortune, well versed in Natural History," would be accompanying the voyage, along with "his Suite consisting of eight Persons and their Baggage."

Though only twenty-five years old, Banks had inherited a vast estate and paid some £10,000—more than twice what the king contributed to the voyage, and roughly equivalent to a million dollars today—to join the expedition. His entourage on the *Endeavour* included two Swedish naturalists, two artists, two footmen, and two black servants, as well as Banks's greyhound and spaniel. Known collectively as supernumeraries, or the gentlemen, Banks and his retinue had their own quarters and dined with Cook in the stern's airy "great cabin," far removed from the teeming mess deck.

The supernumeraries on the replica enjoyed similar privileges, including tea served to them in bed in china cups. On deck, they could join in the work if they felt like it. At the moment, none did. "We're just deadweight," joked a burly man who occupied the cabin of the *Endeavour's* astronomer, Charles Green. "Look it up in the dictionary. 'Deadweight: a vessel's lading when it consists of heavy goods.'" He laughed. "Plus I croak from dysentery during the voyage—Charles Green, I mean."

Eavesdropping on the supernumeraries' banter, I felt a sullen solidarity with my sweating, grunting workmates. Even more than most blue-collar jobs, ours demanded teamwork. If we didn't clutch and release ropes at exactly the same moment, we were quickly pancaked, like losers at a tug-of-war match. Accustomed to spending my workdays alone, a man and his desk, I found it refreshing to labor in a group, in the open air, at hard physical toil.

Then again, we'd only just started. And the task I'd been dreading—going aloft—was about to commence. Todd jumped on the rail and grasped the vertical shrouds, which had small ropes, called ratlines, strung horizontally to create a lattice up the mast. "Try to keep three points of contact at all times with your feet and hands," Todd said, "and always go up the windward side of the ship so if there's a roll or blow you'll fall onto the deck rather than in the drink."

At first the climbing seemed easy. Freshly tarred, the shrouds were firm and sticky, easy to grasp. After a few minutes, we reached the underside of a platform called the fighting top. To reach it, we grabbed cables called futtocks and did a short but unnerving climb while dangling backward at a 45-degree angle. Then, clutching a bar at the rim of the platform, we hoisted ourselves up and onto the fighting top. A chill wind blew across the platform, making the temperature feel ten degrees cooler than on deck. It was a late September morning in the Pacific Northwest, balmy compared to many of the places Cook went. And we weren't even halfway up the mast. We also had something Cook's men lacked: our safety harnesses, which we attached to a secure line before the next maneuver, called stepping onto the yard.

"Stepping" was a misnomer; we had to tiptoe sideways along a narrow, drooping foot line strung beneath the yard, which ran perpendicular from the mast. Each time a new person stepped on, the line quivered and bounced. I crab-walked to the end, perched over the water. This was the yardarm, from which men sentenced to death at sea were hanged. Just standing on the tightropelike line, leaning my belly against the yard, was unsettling enough. Then came actual labor. Bending awkwardly over the yard, as if flung across a gymnastic beam, we reached down to untie thick knots around the sails. Fumbling with the rope, I tried to focus tightly on my hands rather than let my gaze drift to the blur of water below. At one point I glanced straight ahead

at the foremast watch, performing the same task: six protruding rumps, legs dancing spastically on the foot line, arms and torsos lost in a tangle of rope and sail.

When the job was done, we scuttled back to the fighting top, grinning at one another with nervous relief. My hands were shaking from adrenaline or cold, probably both. Dangling backward over the fighting top, I felt with my feet for the futtocks and scrambled down to the deck as quickly as I could. For the first time all day I had a moment to rest, so I settled atop a life raft.

"No sitting on the boats!" a crewman barked. I headed toward the stern and tripped over the ankle-high tiller line, barking my shin and flopping onto the quarterdeck. I'd just got upright when another crewman said, "Mate, I wouldn't stand on that coiled line, unless you want to be hanging up in the rigging by your foot."

Finally finding a safe perch, I slumped on the deck, tired but exhilarated. A hard morning's work completed, a fear partly overcome. (The topmost yard, perched at twice the height of the one we'd just visited, remained to be conquered.) I was hungry and ready for a nap. I glanced at my watch. Only ten o'clock. "Mainmast to cleaning stations!" Todd yelled.

Dispatched below to scrub the galley, I swept the floor, wiped tables, washed dishes. This, at least, I knew how to do. Leaning on my broom, I asked the cook, a New Zealander named Joanna, what was on the lunch menu.

"Food," she replied.

I glanced at the stove. "Gingerbread men?"

"I use a lot of ginger, calms the stomach," she said. "I don't use many other spices. You don't want foods with strong odors, in case they don't stay down."

The first mate charged down the stairs. Trailing his finger under the table I'd just wiped, Geoff barked, "What's all this rubbish here?" I followed him with a cloth. "And what's this, a bloody dust ball?" I swept the floor again. Finishing the inspection, he frowned and said, "I rate this a pass. I expect better next time." As soon as he'd gone, Michael, my Samsonesque watch mate, muttered, "I thought a tugboat was bad, but this is a floating gulag."

Then Geoff's voice bellowed again from deep inside the ship. "Who

is hammock fifteen? Hammock fifteen report here immediately!" I wearily ran through the numbers I'd been assigned since coming aboard: muster order, peg number, hammock . . . fifteen. Perhaps, I thought dreamily, the first mate was ordering me back to bed.

Geoff hunched over the hammock storage area with the rest of mainmast gathered round. Before us lay my bedding, which I'd clumsily stowed hours before. Geoff poked at it with his foot, like a detective probing a badly bundled corpse. "We've just got a message," he said, "your mother's not going to be here to make your bed today." While the rest looked on, I fumbled several times before finally stowing the hammock properly.

When Geoff returned to the quarterdeck, Todd gave me a sympathetic pat on the back. "Sit down and relax," he said. "Grab a cup of tea or ten minutes of shut-eye." Most of us raced to the toilets, which we'd been trying to find a moment to use all morning. I'd just reached the front of the line when a cry came from above. "All hands on deck! We've got wind! Hustle!"

This time we manned "sail setting stations," another bewildering cobweb of lines called clews, bunts, and reefs. "The best way to remember which is which," Todd said, "is by saying to yourself, 'Clews, Bunts, Reefs. Can't bloody remember.'" Then the arcane orders started up again. "Hold crojack!" "Belay starboard side braces!" "Haul away port bunt!"

Yards shifted; sails tightened and filled. The ship suddenly went silent except for the luffing of sails and the gentle slap of waves against wood. I gazed to starboard and saw Seattle's Space Needle in the distance, rising above a jungle of office towers. Traffic crawled across a bridge. Monday morning and we were free from all that, out here on the water. My spirits lifted.

A mop and bucket thudded against my chest. "Time to swab the deck," Todd said.

THE ENDEAVOUR SET sail on August 26, 1768, from Plymouth, the same spot from which the Pilgrims embarked. That day's *London Gazette* gives some flavor of the Hogarthian world the sailors left

behind. A front-page story, headlined "A Rogue Dispatched to His Maker," described the hanging and gibbeting of a highwayman as pickpockets worked the jeering crowd. Another item reported on a hangman whipping a thief in the street for stealing two loaves of bread.

There was also a story about a lecture titled "On the Perils of Travel in Tropical Climes," during which a "much traveled Gentleman" caused women to swoon by claiming that natives "believed their gods would be more pleased if they spilled the blood of a white child." Two small items of overseas news made the front page. John Adams, known for his "encouragement of insurgency," was leaving London for Boston. And a "Young Genius" by the name of Mozart had been appointed maestro at the age of twelve.

The *Endeavour's* departure merited only a brief mention. James Cook wrote just as tersely in his own journal. "At 2 pm got under sail and put to sea having on board 94 persons," he wrote. "Sounded and had 50 fathoms Grey sand with small stones and broken shells."

Cook wrote with similar dispassion three weeks later, when he observed: "In heaving the Anchor out of the Boat Mr. Weir Masters mate was carried over board by the Buoy-rope and to the bottom." This is all we learn about the death of Alexander Weir, a thirty-five-year-old Scotsman from Fife. Cook expended as much ink—and expressed more regret—when several dozen chickens washed overboard in a storm the same month.

This seeming callousness reflected the grim reality of eighteenth-century naval life. Fresh poultry was scarce at sea. A drowned man could be easily replaced. On the day of Weir's death, Cook "Impress'd into his Majesty's service"—that is, legally kidnapped—a twenty-year-old sailor from a passing American sloop (Americans were then still British subjects). This man would also die during the voyage, as would thirty-six of the *Endeavour's* original company of ninety-four. The ship's 40 percent casualty rate wasn't extraordinary for the day; in fact, Cook would later be hailed for the exceptional concern he showed for the health of his crew.

A sailor's life was as anonymous as it was cheap. Most of what's known about the *Endeavour's* sailors—or "the People," as Cook

called them—derives from the sparse details in the ship's muster book. As a group, the crewmen were young, many still in their teens and one aged just twelve. They hailed from all over: east London, Ireland, the Orkneys, New York, Venice, "the Brazils." Some sailors doubled as shipboard tradesmen: barbers, tailors, butchers, poulterers. Once at sea, they rarely appeared in the ship's log as individuals unless they'd been flogged, deserted, or died.

We know much more about the officers, several of whom kept journals. The aptly named John Gore was a trigger-happy American, a seaborne Hawkeye who would prove very skillful at shooting birds, kangaroos, and occasionally people. He had sailed the Pacific twice before and would do so two more times with Cook. Another Pacific veteran, Charles Clerke, was a waggish twenty-seven-year-old who had written a paper published in the Royal Society's journal, claiming that Patagonians in South America were so tall that Europeans reached only to the giants' waists. "At drinking and whoring he is as good as the best of them," one colleague wrote. Clerke would mature into a sober commander by the time he buried his superior off the coast of Hawaii a decade later.

But it is James Cook and the botanist Joseph Banks who dominate the *Endeavour's* story and give the voyage its most unexpected dimension. The two men were fifteen years apart in age and hailed from opposite ends of the class system: Cook of peasant stock, with little schooling; Banks a nobleman's son, educated at Harrow, Eton, and Oxford. Their characters could hardly have differed more: Cook was a family man and naval careerist, Banks a rakish dilettante who regarded the voyage as a bold version of the traditional ruling-class tour of continental Europe. "Every blockhead does that," he told friends. "My Grand Tour shall be one round the whole globe." Their status on board also seemed a recipe for strife. Cook had absolute command over the ship and its crew, while Banks, who had all but bankrolled the voyage, ruled a small fiefdom of artists, scientists, and servants largely exempt from naval duties and discipline.

Yet the day laborer's son and the landed gentleman would forge one of the great partnerships in the history of exploration, akin to that between Meriwether Lewis and William Clark. Like the two Ameri-

cans, Cook and Banks possessed complementary talents, and their voluminous day-to-day journals tell the same story through very different eyes. Cook titles his journal *Remarkable Occurrences on Board His Majesty's Bark Endeavour*, and he leaves out many details of ship life that to him seemed routine. An unsentimental man, accustomed to drawing charts, he surveys even the most exotic scenes with cool objectivity and factual precision.

Banks is chalk to Cook's cheese: opinionated, anecdotal, Romantic, self-revealing. "A genteel young man," Boswell called him, "of an agreeable countenance, easy and communicative, without any affectation." In his journal, Banks writes about his nausea, his bowel pains—even about banging his head while "foolishly" doing exercises in his cabin. He also conveys the awe and terror of launching into the deep in a way that Cook, the middle-aged salt, cannot. Several weeks out from Plymouth, after sailing past Spain, the *Endeavour* swung west across the Atlantic. Cook calmly noted the wind speed and weather. Banks, battling butterflies as well as seasickness, confided in his journal: "Took our leave of Europe for heaven alone knows how long, perhaps for Ever."

ON THE EVENING of my second day aboard the replica, I pulled the "last dog" watch, from 1800 to 2000 hours. This was a pleasant time to be on deck, with the sun setting and my belly warmed by the corn chowder I'd bolted at dinner. It was refreshing to feel genuine appetite bred of hard labor rather than habit. And, for the first time all day, there seemed little to do. Only six sailors were needed to work the helm and keep watch from the bow, leaving the rest of us to idle by the rail. Even the roll of the ship seemed soothing, like a cradle. As the light faded, I closed my eyes.

Todd nudged me awake, his dark features curled in a mischievous grin. "I've got something to perk you up," he said.

"Coffee?"

"Better. Topgallant needs putting to bed." In other words, the sails draped from the topmost yard had to be furled. Todd handed me over to a young Australian deckhand named Jess, my guide to the top of the

mast. She started scampering up the shrouds and I followed, climbing beside Charlie the fireman and Chris the professor. This seemed reassuring. Charlie had told me the night before about rescuing a man from a burning building. Chris was a neuroscientist who studied conditioned response and the power of suggestion. Two men with a professional perspective on fear and how to confront it.

Then I noticed that Charlie had stopped midway up the mast, paralyzed by the ship's sudden sway. "At least a fire ladder's solid," he said. The topmost yard lurched far above us, like a drunken pencil. A dizzying glimpse of deck and sea swam below. "I don't know what's worse," Charlie said, "looking up or down."

"Just focus on your hands and concentrate on what you're doing!" Chris shouted, climbing behind us. "If you don't think about falling you won't get dizzy." This sounded like good advice. Except that Chris was clinging to the shrouds so tightly that his hands had gone as white as his face. I parroted a line that Chris had handed us the night before: "Irrational fears go away if you confront them." My voice came out strangled, high-pitched.

"It's a little different when those fears are entirely rational," Chris replied, peering between his legs.

Jess, climbing high above, shot us a withering look. "Come on, you wankers!" she shouted. "You want to do this job in the dark?"

We resumed climbing to the crosstrees, three narrow ribs of wood perched beneath the top yard. Earlier in the day, in full light and calm seas, the much lower and larger fighting top had seemed a relatively secure haven. Now, at dusk, in a brisk wind, this tiny way station felt horribly precarious. Height radically amplifies a ship's motion; a roll that tilts the deck a foot will move the top of the mast five times as much. "Funny, when you're on the deck the ship seems really wide," Chris said, foolishly glancing down again. "Not anymore."

We hooked our safety harnesses, crept along a foot line, and belly flopped over the yard. Furling a sail was much more awkward and tiring than letting it down. Following Jess's lead, we grabbed fistfuls of flapping fabric, bunched the sail against the yard, and reached down for more. I was just getting the hang of it when the ship pitched forward, teetering us over the bow, before swinging back. Then it pitched

again. As we raised the sail we had to tie it to the yard. When we practiced this maneuver on deck, it had seemed simple enough: looping a rope under the sail, cinching it tight, then throwing the spare line over one shoulder before edging along the yard to tie up another clot of sail. Now, a hundred feet up, as the ship pitched, the job felt about as easy as roping a steer. The rope became tangled around my neck and under my arm and each time I crept down the foot line the sail I'd just tied up began to sag. "I feel like a stroke victim," Chris said. "My hands can't seem to follow simple mental commands."

He fled to the crosstrees. Jess skipped out along the foot line and deftly corrected our sloppy work. I was well past feeling any shame. "Could you carry me down while you're at it?" I asked, only half in jest.

"No worries, mate." She tied off the last bit of rope. "By the end of the week you'll have done this so many times it'll seem dead easy."

When we reached the deck, my hands were black from the tarred shrouds and bleeding from clutching the ropes too hard. My legs shook. Mostly, though, what I felt was incredulity. Cook's men had performed this harrowing job not simply as a matter of course, without safety gear, but in conditions that made our scamper up the mast seem like dockyard play.

"Sleet and Snow froze to the Rigging as it fell and decorated the whole with icicles," Cook wrote of a gale off Antarctica. "Our ropes were like wires, Sails like board or plates of Metal. . . . It required our utmost effort to get a Top-sail down and up; the cold so intense as hardly to be endured." Cook didn't bother to mention that he and much of the crew were laboring against sickness, including severe joint pains from incipient scurvy. Many of Cook's men also suffered from hernias—burst bellies, as sailors called them.

My only affliction was bone-crushing fatigue. I'd been on my feet for most of the past eighteen hours. When our watch ended, I went straight to my hammock, too tired to wash. Climbing in, I decided the sling wasn't so bad after all. A cocoon almost. Samson hoisted into his, thumping against me. The allergic woman began coughing and sneezing again. Only four more nights and days of this, I thought, drifting straight to sleep.

IF I'D BEEN aboard the original *Endeavour*, the journey ahead would have loomed rather larger: 1,052 days, to be exact, assuming I was among the 60 percent who survived. This was a notion I struggled to wrap my mind around. I'd often felt sorry for myself when flying to and from Australia. Twenty hours in the air! A forced march through movies, meals, and mystery novels. Almost the limit of the modern traveler's endurance. Yet it had taken Cook and his men a year and a half to reach Australia, and almost as long to get home again. The ship crawled at seven or eight knots in ideal conditions, much slower in light wind. And each day on the water unfolded much like the one before, a metronomic routine of watches, scrubbing, furling and unfurling sails. "The sea," landsman Joseph Banks observed, "is certainly an excellent school for patience."

Reading the thousand or so entries in Cook's *Endeavour* journal also brought home Winston Churchill's famous quip about naval tradition: "It's nothing but rum, sodomy and the lash." At the start of the voyage, Cook read his crew the Articles of War, which listed punishable offenses, including drunkenness, "profane Oaths," the "unnatural and detestable sin of buggery or sodomy with man or beast" (in Canada, Cook had twice lashed seamen for attempting this offense), and "stirring up disturbances on account of the Unwholesomeness of Victuals." It was this last crime that occasioned the first flogging on the *Endeavour*, just three weeks out to sea: twelve lashes each for two sailors who complained about their allowance of beef.

On our first-day tour of the replica, Todd had showed us a canvas bag; inside it was a heavy knotted rope—the cat-o'-nine-tails, so named for the number of its cords and the catlike scratches it left on a man's back. This was also the origin of the phrases "let the cat out of the bag" and "not enough room to swing a cat." The cat came out of the bag with depressing regularity during the *Endeavour's* long passage to the Pacific. On one day alone, three men were lashed, the last for "not doing his duty in punishing the above two." Before the trip was over, Cook would flog one in five of his crew, about average for eighteenth-century voyages.

If Cook didn't spare the lash, he also didn't stint sailors their most

treasured salve: alcohol. The *Endeavour* sailed with a staggering quantity of booze: 1,200 gallons of beer, 1,600 gallons of spirits (brandy, arrack, rum), and 3,032 gallons of wine that Cook collected at Madeira. The customary ration for a sailor was a gallon of beer a day, or a pint of rum, diluted with water to make a twice-daily dose of "grog." Sailors also mixed beer with rum or brandy to create the debilitating drink known as flip. Cook's notes on individual crewmen include frequent asides such as "more or less drunk every day."

Midway across the Atlantic, the *Endeavour* crossed the equator, an occasion marked with ancient, rum-soaked ritual. From here on, the skies and seasons would reverse, an experience known only to the handful on board who had "crossed the Line" before. For one day, the ship's hierarchy also turned upside down. Veterans of the South Seas conducted a fraternitylike initiation of other crewmen, regardless of their rank. The salts tied novices to a makeshift stool, hoisted them up the main yard, and then plunged them into the sea three times. Any sailor who refused to undergo this dunking had to forfeit four days' allowance of drink.

"This ceremony was performed on about 20 or 30 to the no small diversion of the rest," wrote Cook, who ransomed himself with rum. Those being ducked didn't enjoy themselves quite so much. Some "were almost suffocated," wrote Banks, who paid extra brandy to spare his servants and dogs. That evening, he added, "was spent merrily."

Christmas afforded another occasion for excess. "All good Christians that is to say all hands got abominably drunk so that at night there was scarce a sober man in the ship," Banks wrote. "Wind thank god very moderate or the lord knows what would have become of us." Considering the quantity of booze that sailors consumed on a normal day, it staggers the mind to imagine how much grog the men downed that Christmas.

At Tierra del Fuego, at the bottom of South America, Banks went ashore with a small party to gather plants. The weather turned suddenly frigid and snow began to fall. Banks's two black servants "stupefied themselves" with rum, and stayed behind while the others struggled ahead. By the time a rescue party returned, the two men had died from exposure or alcohol poisoning. Later in the voyage, a man

entered the ship's log as having "died at sea of an excess of rum." Some who fell from the ship and drowned undoubtedly did so while drunk.

There wasn't any risk of that happening on the replica *Endeavour*. The ship was alcohol-free, a concession to modern sensitivities about sailing under the influence. "People get a little more upset these days if you lose someone overboard," Captain Blake dryly explained. In three years at sea, only one man had fallen off the replica: a safety officer who slipped while repairing an anchor line. He was pulled out ten minutes later, frightened but unhurt. Another crewman had fallen from the rigging. Though saved by his harness, he suffered bruises and shock. Rough seas also threw crew around the lower deck, resulting in broken ribs and gashed heads.

Even in calm weather, minor injuries were common: sprains, twists, rope burns. On our second day out, Chris tripped over the tiller line, tearing a ligament in his knee. Another man badly wrenched his ankle. This meant more work for the rest of us. In theory, the watch system divided the ship's labor into four-hour shifts, with no more than twelve hours a day of work for any sailor. In practice, this clearly defined schedule was subject to change at any moment: if the wind died or gusted, if we had to tack, or if some problem arose that required more than twelve hands on deck. Meals and sleep were prone to similar interruptions. Before long, I stopped watching the clock and stumbled from task to task in a plodding daze.

At some point I found myself winding up the anchor with the capstan, a revolving wood cylinder that eight of us moved by pushing chest-high spokes, around and around, like blindfolded camels grinding grain. It was brute work, set to brute commands: "Heave away!" "Avast!" "Heave and pawl!" Todd interspersed these orders with an off-color chantey, set to the tune of an Australian rugby song: "I wish all the ladies were waves in the ocean, and I was a surfer. / I'd ride them all in motion. / I wish all the ladies were bricks in a pile, and I was a builder. / I'd lay them all in style."

As Todd sang, a Californian named Karen shook her head. "Onshore you'd get fired for sexual harassment singing that," she said, pushing the capstan beside me. "Not that I care out here. I don't care about anything anymore."

"It's like a cult," added a Canadian named John, who was pushing in front of us. "They get you on this ship and use fear and sleep deprivation and lead-based paint fumes until you become a complete automaton."

One task offered relief from this ceaseless toil. At sunset, Todd ordered me to keep watch from the bow. This meant shimmying to the end of the twenty-foot bowsprit and looking for logs, buoys, or small boats. If I saw anything I called out its position to a "runner" at the rail. Lying with my elbows on the bowsprit, the wind gusting past, I felt rather like a figurehead—albeit a ludicrous one, bundled in layers of filthy clothes and a wool cap pulled down around my ears. The original *Endeavour* was so prosaic a ship that it sailed without a figurehead, or even its name painted on the transom.

Settling in, I realized that bow watch suited my temperament much better than tugging ropes, shoving the capstan, or scurrying up the mast as a cog in a mechanism I didn't comprehend. Here, all I had to do was observe, and report on what I saw—not so different from my normal occupation as a journalist. "Buoy, two points to port!" I shouted to the runner, conveying the only breaking news during the contented hour I spent astride the bowsprit.

For several days I'd barely had a moment to gaze out to sea, except in terror from the top of the mast. Now, I watched a porpoise surface and a family of eiders paddle past. Seagulls perched atop seaweed. The water seemed wondrously varied and textured, in one spot dark green and glass-smooth, in another indigo and ruffled, as if pattered by tiny raindrops. At other points, the sea eddied and frothed into whitecaps: miniatures of the snow-covered Cascade Mountains looming off to starboard, slowly turning pink in the setting sun.

COOK HADN'T BEEN quite so awed by the majesty of the Pacific Northwest. By the time he arrived off the west coast of America, midway through his third voyage, he'd become a bit jaded by all the scenery he'd passed during the previous nine years: Antarctic icebergs, Krakatoa's volcano, the fjords of New Zealand. Sighting the coast of present-day Oregon, he wrote of the view: "There was nothing

remarkable about it." Nor was Cook impressed by the climate. "The land formed a point, which I called *Cape Foul Weather* from the very bad weather we soon after met with."

Coasting north through squalls, hail, sleet, and snow, Cook searched for a port or even a clear sight of land. Close to where we now sailed, he spotted an opening "which flattered us with hopes of finding a harbour." It proved an illusion, and Cook left behind another disappointed name: Cape Flattery. Later, he neared the Strait of Juan de Fuca, named for a navigator who claimed to have come this way in 1592, and who returned with tales of beautiful islands "rich of gold, Silver, Pearle, and other things." Cook, once again, was foiled by darkness and weather. "We saw nothing like it, nor is there the least probability that iver any such thing exhisted," he wrote of the strait, before departing the present-day United States.

We were much more fortunate. At dawn on our third day out, the ship approached a wide passage between the Olympic Peninsula and Vancouver Island. "There it is, mates," Todd announced. "The Strait of Wanna Puka." The last time the replica had sailed past the Juan de Fuca Strait, half the crew had spent the day hugging "chunder buckets"—plastic pails with smiley faces at the bottom beside the words "You will get better."

The wind quickly picked up and I struggled to keep my balance on deck. But the scenery was lovely, not a sign of humanity, the lonely San Juan Islands just ahead. By now, the first mate's commands had also taken on the pleasantly repetitive rhythm of a caller at a square dance.

"Hold your starboard reef!

"Hold your starboard bunt!

"Belay starboard!"

I still wasn't sure what much of this meant, but I knew what to do: tug and hold weight until someone tied off the line. Only a few people had to flex their minds. The rest of us were just muscle. Even scaling the mast had lost some of its terror. Or rather, the terror made me feel safe; I was so focused on keeping a tight grip and getting the job done that I felt preternaturally alert, like a soldier in combat.

A deep apathy about personal hygiene had also set in. At one point I caught my reflection while polishing brass: three days' scruff on my

cheeks, lank hair, red eyes, tar-speckled chin. I looked like a street person, and behaved like one, too. Discovering a Vegemite-smeared crust in my pocket, stashed the day before while dashing from the galley to the deck, I bolted it without shame. During a rare slack moment between watches, I wrapped a rank shirt around my head and sprawled on the nearest patch of deck. At night it was all I could do to peel off two layers of socks.

Eighteenth-century sailors were far more slovenly. They often slept fully clothed, in case they were called on deck during the night. Soap didn't become a Navy provision until 1796. Lice were endemic; maggots, cockroaches, and rats also swarmed the ship. For napkins, sailors used bits of frayed rope, which became so greasy that the men recycled them as candles. Makeshift urinals added to the squalor. Some sailors didn't bother to use them, pissing from the deck through grates to the hold below. On Cook's second voyage, a marine was punished for defecating between decks, and when a ship's cook died from disease, his mates attributed it to his filth: as one put it, "he being so very indolent & dirtily inclined there was no possability of making him keep himself clean, or even to come on Deck to breath the fresh air." Not surprisingly, given this level of hygiene—even among cooks—sailors also suffered from dysentery, a horrible thought given that the only toilets were the dreaded "seats of ease."

Cook fought hard to change sailors' habits. He encouraged them to take cold seawater baths, as he did, and enforced regular cleaning of hammocks, bedding, and clothes, sometimes towing laundry behind the ship. He also used sailcloth to channel fresh air into the lower deck, as well as scrubbing the floors with vinegar and lighting fires of brimstone to clear out the fug. But it was in the realm of diet that Cook made his greatest mark. The *Endeavour* was not only on a voyage of scientific discovery; it was also a laboratory for testing the latest theories and technology, rather as spaceships are today. In particular, Cook and his men became guinea pigs in the Navy's long fight against "the scourge of the sea," otherwise known as scurvy.

The human body can store only about six weeks of vitamin C, and as the supply runs out the hideous symptoms of scurvy appear: lassitude; loose teeth; rotted gums; putrid belching; joint pain; ulcerated

skin; the reopening of old wounds and healed fractures; hemorrhaging from the mouth, nose, and lungs; and, ultimately, death. Some eighteenth-century ships lost half their men to scurvy. Also, because of the disease's time cycle, it would often strike much of the crew at once, filling the ship with sick men. This made scurvy as significant an impediment to exploration as sailors' inexact means of calculating longitude.

The Navy suspected that scurvy sprang from a lack of fresh food at sea. But it had failed to adopt the findings of James Lind, a Scottish physician who, fifteen years before the *Endeavour's* sail, wrote a treatise on scurvy that recommended citrus fruit as a prophylactic. Instead, the Navy's "Sick and Hurt Board" loaded the *Endeavour* with experimental antiscorbutics such as malt wort (a drink), sauerkraut, and "portable soup," a decoction of "vegetables mixed with liver, kidney, heart and other offal boiled to a pulp." Hardened into slabs, it was dissolved into oatmeal or "pease," a pudding of boiled peas.

Cook enforced this diet with fanatical zeal, and with a keen grasp of sailors' psychology. "Such are the Tempers and disposissions of Seamen in general that whatever you give them out of the Common way," he wrote, "it will not go down with them and you will hear nothing but murmurings." At first, the sailors wouldn't touch sauerkraut. Then Cook made it known that the dish was being served each day to the gentlemen and officers, and left the People to decide if they wanted to eat it or not. Before long, every man did. "The Moment they see their Superiors set a Value upon it, it becomes the finest stuff in the World," Cook wrote. He also forbade sailors one of their favorite dishes—biscuits smeared with "slush," or skimmed fat—because he believed it obstructed digestion and blocked "putrid air" in the body.

Cook succeeded in quelling scurvy, though not for the reasons he or the Navy supposed. The antiscorbutics on board were of little or no value. Instead, it appears that Cook's equally dedicated pursuit of fresh food at every port he reached protected his men. "It was the Custom of our Crews to Eat almost every Herb plant Root and kinds of Fruit they Could Possibly Light upon," a sailor wrote, adding that crewmen "knew it was A great Recommendation to be seen Coming on board from A pleasure Jaunt with A Handkerchif full of greens."

Ironically, Cook's later endorsement of malt wort retarded the fight

against scurvy. It wasn't until the twentieth century that scientists conclusively determined that a daily dose of a mere ten milligrams of vitamin C was enough to prevent a disease that had killed tens of thousands of sailors.

ON OUR FOURTH night at sea, I was shaken awake for what I assumed was the four A.M. watch. Struggling out of my hammock, I fell to the sharply tilted floor. I glanced at my watch: it was only two o'clock. The ship righted, then rolled again. The thought of getting back in my hammock made me queasy. I went to the galley and found six others, nervously clutching tables. A woman named Sharon was distracting herself by compiling a list of nautical terms that had entered modern slang: "all washed up," "around the horn," "clear the decks," "catch someone's drift," "taken aback" (when sails drive a ship to stern), "scuttlebutt" (a water cask around which sailors gossiped). The rest of us pitched in words we'd learned during the course of the week, such as "three sheets to the wind" (if a ship's sheets, or ropes, are hanging loose, the sails flap and the ship is unsteady; hence, drunk), and "bitter end" (the last piece of an anchor cable, attached to a bitt, or post).

"Pooped," someone said.

"What's that?"

"It's in rough seas, when the water comes over the stern and onto the poop deck."

The galley went silent. We listened to water slosh in the bilge. Dishes rattled in latched cupboards. "Batten down the hatches," Sharon said, adding the phrase to her list.

For once, I was grateful when my shift on deck began. In rough seas, the open air seemed far preferable to the stifling mess deck. Then again, as soon as I climbed the companionway, the wind bounced me from mast to rail and pierced my long johns, jeans, and four layers of shirts and jackets. "Crisp morning," the captain said, giving Todd the course and ducking below.

As luck would have it, my turn at the helm had arrived. This job required two people. One crewman, called "brains," shouted changes in direction, while another, called "muscle," turned the heavy

ten-spoked wheel. Working first as muscle, I struggled to keep track of where I was on the wheel while the brains called out, "two spokes to port," or "four spokes to starboard," or "midships," the wheel's original position.

"Brains" was much trickier. I had to keep a simultaneous eye on the faint, bobbing horizon and on a gyrating compass. When the ship strayed more than 5 degrees off course—which it did constantly, in gusts of up to thirty-five knots—I had to judge how much to adjust, at the same time recalling how many spokes we'd already moved to port or starboard.

A 370-ton wooden tub doesn't shift so nimbly as a modern sailboat. The ship took half a minute to respond each time I moved the rudder; when it did, I invariably found I'd corrected too much. Then I'd correct the correction, fishtailing too far the other way. I felt as though I was steering a poorly aligned truck on an icy highway. And each time I'd finally got things under control, the captain would pop his head up from below to order a new course, starting the mad skid all over again.

At least the work kept my mind off the rolling seas. At six A.M., handing over the helm, I tripped on a heavy bundle by the rail. A muffled groan came from inside the blanket. A little way on, I passed several hunched figures retching into buckets. Struggling to the bow, I arrived just as the ship pitched into a wave, tossing cold spray in my face. A moment later, Todd lifted my wool cap and shouted in my ear to come back and help brace a spritsail spar. There were no other able bodies available.

Grasping a rope and pulling down with all my weight, I lifted off the deck, swinging like a pirate, until Michael fastened the line. "Do it fast and don't let go," Todd told him, "or else Errol Flynn there will fall back on the deck, crack his head, and die a terrible death."

"Shit happens," Michael said, calmly belaying the rope.

At breakfast, half the members of mainmast stared greenly into their swaying porridge. The rest of us bantered with the obnoxious merriment of the spared. "Eat up," Chris said to one of the stricken. "It'll give you something to do back on deck. Two-six heave."

Todd pitched in with tales of epic vomiting from voyages past. "Someone spewed while aloft and the wind was blowing so hard it

went horizontally," he said. Another sailor, dangling from the topmost yard, daintily puked in her hat rather than shower those below. "Unfortunately, she dropped her hat on the way down."

I was surprised to learn that Todd, who had been at sea for three years, sometimes became sick, as did others among the permanent crew. During a gale shortly before our voyage, the *Endeavour* had heeled so sharply that the cannons dipped in the sea and water sloshed over the rails. "Sea legs aren't much good," Todd said, "when your legs are almost in the sea." The most sickening motion, though, was when the ship "corkscrewed," rolling and pitching at the same time. Todd added what was meant to be a consoling footnote. "I've never known anyone to spew for more than three days and three nights."

Midmorning, the wind settled down, and I was ordered below to clean the quarters of the officers and gentlemen. This meant collecting seawater in canvas bags slung over the ship's side, then struggling down a steep ladder to scrub the uneven wood floors. Compared to our quarters, the aft deck felt decadent. The only natural light in the mess deck shafted narrowly down the companionway. Here, sun filtered through a transom and latticed windows. The table in the officers' mess was laid with pewter, china, and cloth napkins. There was more than enough room to swing a cat.

The cabins, though, were six-foot-square hutches, crowded with swing beds, sea chests, and chamber pots. Even Cook's cabin felt tiny, with barely enough space for a foldout desk and a chair with shortened legs. Banks, at six foot four, stood several inches longer than his room; he usually left his quarters to his books and dogs, preferring to sling a hammock in the "great cabin." This was where the captain and gentlemen dined and worked. Here, light and air poured through wide sashes opening out both sides of the ship, and to stern. A large table, with chairs lashed to its base, stood at the room's center, surrounded by cupboards, a fireplace, a shelf of nautical and botanical books, and a birdcage with a fake parakeet.

Captain Blake sat at the table, writing in the ship's log. His rendition of the last twelve hours sounded disappointingly tame. The wind had reached "force six," he wrote, referring to the Beaufort wind scale, "bringing with it a short sharp sea chop that had some effect on the

crew." When we'd finished cleaning, he invited several of us to join him at the table. This wouldn't have happened in Cook's day. Officers and gentlemen kept to the quarterdeck when above, an area off limits to ordinary sailors. Below, they remained separated from the sailors by a party of marines, whose quarters formed a firewall against mutiny. The marines were a sort of seaborne middle class, dining and dwelling apart from both the officers and the People. The *Endeavour* was England in miniature: a hundred men on a hundred-foot ship, decorously maintaining the same divisions at sea that prevailed on land.

"You couldn't be that formal now, even if you wanted to," Blake said. "Not with a crew of Australians. They'd tell you to get stuffed."

Blake, an Englishman born in Nigeria, had gone to sea at fifteen and spent the next three decades working on everything from cargo boats to luxury cruise ships. He possessed the unflappable air of a mariner who had seen all that the sea could throw at him. Even so, the captain confessed that he'd been startled by the experience of piloting the *Endeavour*. "I'm not a romantic," he said, "but you do start to appreciate what they did, and how soft we've become by comparison."

In Cook's day, sailors still relied on much the same tools they'd used for centuries. They calculated the ship's speed with an hourglass and a knotted rope draped in the water (hence the term "knots"). They dropped lead lines with tallow at the end to determine the water depth and test the sea's bottom. A relatively new and improved system of sextant, almanac, and lunar tables helped sailors figure out where they were on the globe. All these tasks—performed in an instant today by sonar, radar, and global positioning systems—were not only tricky and time-consuming; they also left little or no margin for error on a ship that was unwieldy, even for its day.

"The *Endeavour* was the Mack truck of the eighteenth century," Blake said. "A beast to maneuver." The replica, like the original, sailed poorly into the wind and slipped steadily sideways in a heavy current or cross breeze. If the replica found itself close to shore in shifty winds or water, Blake could hit the emergency engines, and motor out of trouble. "Cook had to sail out of it or be crushed against rocks," he said. Added to that was the constant anxiety of keeping the ship provisioned with fresh water, firewood, and food.

But what awed Blake most was the *Endeavour*'s mission. For much of the voyage, Cook sailed blind: into uncharted waters, toward unknown lands, through hurricane belts with nothing but clouds to warn of the weather ahead. The only modern experience that seemed remotely analogous was hurtling into space; one NASA shuttle had been named, appropriately, the *Endeavour*. But even this comparison didn't capture the utter vulnerability of Cook's ship. Astronauts have satellite images, contact with Mission Control, and high-tech instruments to bail them out. Cook traveled far beyond the range of any help, without so much as a life raft.

"We throw around words like 'courage' and 'stress' very carelessly today," Blake said. "Anyone who does anything out of the ordinary is a 'hero,' a 'survivor.'" He shook his head. "I don't think many of us could endure a week of what Cook and his men confronted, physically and psychologically, day in and day out, for years at a time."

In one respect, though, Blake envied Cook. The replica *Endeavour* had to keep to a schedule, forcing Blake to spend much of his day watching the clock and calling in his coordinates to the Coast Guard. Cook had a schedule, too, but it was generally measured in seasons. Could he reach the Arctic before winter closed in? Would breadfruit and other foodstuffs still be in season when he reached the tropics?

"We've lost that patience, that sense of chance," Blake said. "I think that's why a lot of people come out on this ship. They feel confined, coddled, time-sick." He laughed. "Either that or they've read too many Patrick O'Brian novels."

The replica's professional sailors were different. Many came from maritime backgrounds and hoped to spend their careers at sea. One was a shipwright's son from the Sydney docks. Others had labored in the merchant marine. Todd, a truckdriver's son who'd spent his teenage years as a lifeguard on Australia's rough Pacific beaches, planned to get a maritime pilot's license. One sailor had decided to stick to historic vessels: his next posting was aboard a replica of an Irish famine ship.

Like Cook's men, the replica's sailors also played as hard as they worked. "There may not be any booze on this ship, but everyone makes up for it on shore," Blake said. "The world's a different place

than it was in Cook's time, but sailors' characters haven't changed all that much."

THE NEXT DAY, Vancouver's skyline hove into view, set against a spectacular backdrop of jagged, snowcapped mountains. Cook had missed this, too. The closest he came was Nootka Sound, on Vancouver Island, where he spent a month provisioning and repairing his gale-battered ship. For "the People," who had previously enjoyed the beauty and liberality of Polynesian women, Nootka proved a disappointment. "The women here are quite out of the question," a surgeon's mate, William Ellis, wrote of the lice-ridden, ocher-painted natives. Not all the crewmen agreed: some scrubbed the women on deck before bartering for their company.

Our own arrival in Canada was considerably less exotic. On the morning of our last day at sea, we were assigned an additional job: turning the lower deck from a working ship into a museum exhibit for the *Endeavour's* stay in port. We laid out bowls of plastic sauerkraut, piles of hardtack, dominoes, and wooden mugs and pitchers. Stringing a sample hammock, I felt like climbing in and staying in the sling as part of the exhibit: dead sailor. Among other things, I'd learned that hammocks doubled as shrouds for those who perished at sea. My hands were so swollen and raw that I couldn't make a fist or do the buttons on my shirt. Every limb throbbed. My eyes twitched and blurred from fatigue.

We went aloft one last time to furl the sails and we stayed on the yard to enjoy the view as the ship eased into harbor. A replica longboat pulled alongside, rowed by men in horned helmets, the kind that mock Vikings drink from. "Ahoy!" they shouted, raising their oars. The dock was crowded with schoolchildren waving Union Jacks, red-uniformed Mounties, city officials, and television camera crews. After just a week on board, I felt unexpectedly proprietorial and proud.

"Fire in the hole!" the gunner yelled, delivering a broadside of shredded newspaper in the direction of downtown. Then he soberly approached the helm. "Minimal collateral damage, Captain. We can still use the pub."

And we did, toting our duffel bags through a seedy district to Fred's

Uptown Tavern. I found myself walking bowlegged and leaning into an imagined swell. I didn't register much else; after two beers, the bar began to sway like the quarterdeck. I blearily exchanged hugs and phone numbers with my watch mates, then found a room on the top floor of a cheap hotel. Falling into the shower, I tried to scrub off the tar stuck in my hair and the grime embedded in every inch of exposed skin—a fraction of the filth the *Endeavour's* sailors must have acquired in three years at sea. As soon as I closed my eyes, the bed began to pitch and roll, a mattress pinned atop a fifteen-story mast. I'd only been at sea a week, in relatively calm seas. Cook and his men once sailed extreme latitudes for 117 days without touching land. It's a wonder they could still walk when they reached shore.

The next morning I headed to the airport, still wobbly on my feet. As the plane lifted off and wheeled over the harbor, I caught a glimpse of the *Endeavour*, far below. The ship looked like a bath toy, its towering masts no bigger than toothpicks. As the plane rose through the clouds, I eased back my seat, several inches wider than the ship's hammocks.

Just as I slipped into a half-sleep, a voice reeled me in. "This is the first mate," the PA system crackled.

Can't be, I thought. Geoff, ordering us back on deck.

No. Just the cockpit, telling us our altitude and travel time. Flight attendants came down the aisle with drinks. I undid my shoes, idly fingering the laces. Tugboat hitch. Square lashing. Up here, they seemed so simple. The woman in the next seat glanced at me strangely.

"I just got off a ship," I said. "Captain Cook's ship. We had to tie a lot of knots."

She smiled, the way one does at a fanciful child, and put on her headphones.